4. That the Bee-grubbs actually feed on Mites, there being no other food for them.

5. That there are other *Species* of Bees or Waſps beſides thoſe by me deſcribed; which are ſometimes found to make theſe Mites their food: Dr. *Johnſon* having open'd one Husk, with one only large Maggot in it.

6. That there are probably different ſorts of Mites in theſe Huskes, making poſſibly different *ſpecies* of Kermes: For, ſome I have found to hold Carnation colour'd Mites, encloſed in a fine white Cotton, the whole Husk ſtarting from the Twigg, ſhrivelling up, and ſerving only for a Cap or Cover to that company of Mites. Other Mites I have ſeen white, and (which is moſt uſual) the Husks continuing intire and not coming away from the Twigg they adhere to, and but little Cotton at the bottom. Thoſe of the firſt ſort are the white Cob-webbs on the Vine, deſcribed by Mr. *Hook Micrograph.* Obs. 56.

7. That the ſhrivell'd Cap to be found upon the Mites incloſed in Cotton, as alſo the whole Husk itſelf, if taken early in *April*, while ſoft, will, dried in the Sun, ſhrink into the very figure of *Cochineil*: Whence we gueſs, that Cochineil may be a ſort of *Kermes*, taken thus early and ſun-dried.

Hitherto this Summers Notes concerning *Kermes*. This advantage at leaſt we may have by them; that the account, taken from M. *Verney* by Dr. *Croon*, and publiſh't in one of the *Tranſactions*,* is made more intelligible: the ſmall ſcarlet powder, there mention'd, being to be underſtood of thoſe Mites; and they to be diſtinguiſh't from the Bee-grubbs, which are chang'd into the Skipping Fly, that is, the Bee, (for kind at leaſt) by us deſcribed formerly. I am, *&c. York Octob.* 9. 1671.

* See Numb. 20. p. 362.

An Extract of a Letter Written to the Publiſher by Mr. Thomas Platt, *from* Florence, Auguſt 6. 1672. *concerning ſome Experiments, there made upon* Vipers, *ſince Monſ.* Charas *his Reply to the* Letter *written by Signor* Franceſco Redi *to Monſieur* Bourdelot *and Monſieur* Morus.

Sir,

I ſhall begin with telling you, that in a Converſation laſt Winter, where I had the good fortune to make one of the number, the diſcourſe was of an Opinion of M. *Dela Chambre*, who,

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to prove that the Spirits are animated, alledges, among other arguments, their Aptneſs to diſcern; by which he ſuppoſes, that in the heat of their anger they gather the Poiſon from the ſeveral parts of the blood, and therewith convey themſelves to the teeth of the irritated animal, from whence they are afterwards transfuſed into the wound by biting. This conceit was by ſome of the Company received with much applauſe, becauſe they knew, how difficult a thing it was, to come to an explanation of that poiſon, which M. *Dela Chambre* makes mention of in general, That the ſpirits proceed from the Blood of the irritated animal. So they agreed, *paucis mutatis*, hence to frame a new *Hypotheſis*, ſaying, That ſuch poiſon is nothing elſe but a new and malignant activity of the ſame Spirits whilſt they are vexed and bent towards revenge; aſſerting the truth of ſuch Ideal effects with divers examples, as that of the Toad, the Weeſel, the Mad Dog, the Spider of *Puglia*, &c. which were all found very weak and un-concluding.

Wherefore moſt of the Gentlemen did incline to entertain Monſ. *Dela Chambre's* firſt fundamental Opinion, ſince at leaſt that ſuppoſes, That thoſe Animals, that poiſon by their biting, have already a real poyſon within themſelves, and that Anger works no other effect, but to gather all the venomous parts together in one particular place, whence they may eaſily be inſtill'd into the wounds, made by the teeth.

For all this, (as it moſt commonly happens in ſuch diſcourſes,) every one remain'd in his own Opinion; and mention having been made of that of Signor *Redi's*, held in his Book of Vipers, which for ſeveral years paſſes in this Country almoſt for an undoubted truth, *viz.* That the Vipers poiſon conſiſts in ſome thing, incompatible with this new allay of M. *dela Chambre's* opinion, reduced to the irritated Spirits, though not with that of his, which is taken purely from its firſt grounds: This gave occaſion to a new debate concerning the validity of Sinnor *Redi's* Aſſertion, ſo generally received here: ſome ſaying, it would do well to examine the grounds of it. Upon this it was reſolved, that all might be ſatisfied, to come to a tryal as ſoon as the Spring would give leave to Vipers to appear abroad.

Now, Sir, you muſt know, that being at the houſe of Sign. *Magalotti* on the 2*d* of *June* laſt, there came Dr. *Francini*, who had formerly been one of the moſt reſolute Aſſertors of this

opinion of Signor *Redi* concerning the Poiſon of Vipers; and being come he ſent to his lodging for a Box, in which there were a great many heads cut off, that morning, of Vipers lately come from *Naples*. He immediately deſired to have ſome Animals to begin his Experiments upon; but there being at that time no other company with Signor *Magalotti* but his brother and I, it was thought fit to ſtay till next morning, that thoſe Gentlemen, who were at the diſpute laſt Winter, might be preſent; as it fell out they were.

I, that had not ſo much patience, deſired the Doctor to make at leaſt one experiment; which being granted, Signor *Magalotti* was pleaſed to ſend to the publick Market for a couple of Pigeons, to be ſure of having ſome, that were not prevented by any Antidote. The Pigeons being come, the firſt was wounded with the Teeth of a Vipers head that had been cut off about 7 or 8 a clock the ſame morning. The way of making the wound was, by thruſting twice the Maſter-teeth into the fleſhy part of the Pigeons breaſt, till ſuch time as preſſing the upper part of the Jaw, the two little bladders, that ſerve as gums to the teeth, did empty out upon the wound ſome of that yellow liquor, which here is ſuppos'd to be the true and only poiſon of the Viper. This Pigeon being thus bit, and ſet upon the ground, began to ſtagger immediately, and dyed in leſs then 3 or 4 minutes. The ſecond Pigeon was wounded in the ſame manner; but at the firſt wound there only entred one of the teeth, which brought forth a great deal of blood; the ſecond time they both enter'd, and this had the ſame fate, with this difference only, that he languiſh't half a quarter of an hour.

The next morning there met at Signor *Magalotti*'s Chambers, beſides the company of the day before, Signor *Carlo Dati*, Sign. *Vincenzo Viviani*, Sign. *Paolo dell Ara*. Dr. *Savona*, Dr. *Neri*. Dr. *Fabrini*, and ſome others. Whereupon ſix Pigeons and a Cock having been brought; the firſt thing that Dr. *Francini* did, was, to thruſt ſeveral thorns of Roſe-ſhrubbs into the breaſt of one of thoſe Pigeons, to manifeſt, that ſuch accidents, as might befall thoſe that ſhould be wounded by the Teeth of the dead Vipers, were not meerly cauſed by the wound. And whereas one of the company began to make ſome nice reflexions, and to take ſome of the heads to meaſure the juſt proportions of

their

their teeth, to ſee what difference there might be betwixt them and the thorns, this made the Doctor looſe patience; and ſoon taking a pin, which was none of the leaſt, he gave to the firſt Pigeon, that he could lay hands on, a very deep wound in the breaſt, which no ſooner was got free but began to leap & friſk about the room, as if it had not been concern'd in the leaſt.

After this, they began in good earneſt. For another Pigeon was taken and bit in the breaſt by both the Maſter-teeth of a Vipers head, that had been cut off the morning before; the execution being exactly like that of the day before. The effect was, that the Pigeon had the ſame ſhaking fits; after which falling upon his belly he died, giving ſignes a little before of a painful Agony, by his often gaping. His end was not only very ſenſible to him, but alſo more tedious than that of the other day; for, this lived 5 or 6 minutes after his wound. Another having been ſerv'd after the ſame manner with another head, had the like accidents, and died within a quarter of an hour: This Obſervation was made on this other, that his wound let out a great deal of blood; whereas not ſo much as one drop was ſeen to come out of any of the others.

All this appearing as yet but little to the Doctor, to exclude the doctrine of Spirits, which now began to looſe ground after ſo many experiments of *Dead* Vipers heads; he took three ſtalks out of a Broom, and having ſmoothed them, and ſharpn'd them at the ends after the manner of a Lancet, he drew from the gums of ſeveral heads enough of that yellow juice to dawbe two of thoſe ſtalkes; which, being thus moiſtned with that liquor, were both put into the breaſts of two Pigeons, and there left; the like having been done to another with the 3*d* ſtalk not cover'd with that juice, which was at leaſt one third part bigger and longer than the other two. In a word, the two firſt died within 4 or 5 minutes, and the laſt continues to this very day in Signor *Magalotti*'s Pigeon-houſe as brisk and as fat as ever; his wound in his breaſt, inſtead of having cauſed an Inflammation, is now almoſt perfectly healed.

Whilſt theſe Experiments were making, it came into the heads of ſome to try another, upon the relation that Sign. *Paolo dell' Ara* (lately come from *Paris*) had made; which was, that ſome had aſſerted there, that, to ſwallow a Vipers head was a moſt certain Preſervative and Remedy againſt the biting of a Viper

Viper. Dr. *Francini* ſmiled at that phancy; but to give full ſatisfaction about it, he made two experiments. The one was, by making the Cock that was there to ſwallow a Vipers head, and then cauſing him to be well bitten in both thighs by a live one. But the Cock continuing ſome time before he gave any ſigns of ſickneſs; not to looſe time, he paſs'd to the other experiment, by thruſting the Teeth of a dead Vipers head into another pigeon, that had before got down one of thoſe heads into his belly. The concluſion was, that both dyed, the Cock within a quarter of an hour, & the Pigeon in leſs than 4 minutes.

The news of theſe Experiments made many perſons curious to ſee them perform'd once more; ſo that, ſome few days after, a rendezvous was made in Sign. *Magalotti*'s Garden, where, beſides the forenamed perſons, met Mr. *Thomas Frederick*, Mr. *John Godscall* (two Engliſh Gentlemen,) Abbot *Strozzi* (his Moſt Chriſtian Majeſties Publick Miniſter in this Court,) Sign. *Paolo Falconieri* (firſt Gentleman of the Bed chamber to the G. Duke) Sign. *Luigi del Riccio*, Monſ. *Pelletier*, Monſ. *Morelle* (the one Phiſitian, and the other Chirurgion to the G. Dutcheſs,) Dr. *Gornia* Phyſitian in Ordinary to his Highneſs, Dr. *Bellini* Profeſſor of Anatomy at *Piſa*, Sign. *Lorenzo Lorenzini* a Mathematician, and Sign. *Pietro Salvetti*.

But by the by, give me leave to tell you (for ſome diverſion,) that this Sign. *Salvetti*, who is one of the G. Dukes Muſitians, & plays on all Bow-Inſtruments, invented about 4 years ago a New tuning of the Antient *Lira Viol* with the uſual 13 ſtrings; by means of which tuning it is rendered wholly perfect, ſo that you may expreſs upon it all Concords, Diſcords, and alſo the imperfect Concords, as ſeaventhſ, fixths, &c. as well as upon any Virginal that hath the quarters of Notes upon it. 'Tis true, 'tis only for Melancholly and paſſionat matter, and not for diviſion, as is the proper nature of the *Lira*. I ſhall only add, that with the aboveſaid tuning he aſcends in *Alte* as high as *G, Sol, Re, Ut*; and deſcends as low as double *C, Sol, fa, ut*; and can make every where the ſame Concords as above.

This ſame perſon having applied himſelf to the ſtudy of the Mathematicks, and particularly about the *Proportions* of *Harmony*, relating to his profeſſion of Muſick, began to delight himſelf in *Opticks* and other parts: And not being content with the Theory, he went on to put it in practice by making Teleſcopes

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of divers fizes, as alſo Microſcopes, in imitation of thoſe of *Divini* and *Campani*. And I can tell you, that he lately ſhew'd one of his Microſcopes to the G. Duke, which was judged by all much better than any of the beſt his Highneſs hath; and I was an eye-witneſs to this, that for magnifying, defining, and clearneſs, it was found very excellent. The ſame day he likewiſe ſhew'd his Highneſs a little Proſpective Glaſs, made according to Mr. *Newtons* new Invention; and though this was but the firſt, and was not above half a foot long, it had the ſame effect of one of two. He is now making another after the conceit of M. *Caſſegrain*, though he agrees not with him in making convex the little Speculum, which one looks into through the Eye-glaſs; but believes, the French Author only deviſed that to diſguiſe as much as was poſſible his pretended New Invention, which he endeavors to make anterior to Mr. *Newtons* moſt noble one. For the reſt, he thinks he hath found a way of making Objects ſeem right with one only glaſs.

But, to return from this digreſſion to our firſt diſcourſe, you may take notice, that the Aſſembly at Signor *Magalotti*'s, having been firſt inform'd by Dr. *Francini* of the grounds of this diſpute and of the former Obſervations, he began the ſame experiments by cauſing 2 Pigeons to be bit by a Vipers head that had been dead above ten hours, in ſuch a manner that by preſſing the gums ſome of that yellow liquor might drop into the wound. They both died, one in 6 minutes, and the other in 8; and not being content with this, with another Vipers head they poiſon'd a Chicken, which died in 10 minutes. There appear'd afterwards another Pigeon, that had been wounded, many hours before, by a dead Vipers head; but it had been dead ſo long, that the liquor, quite dried up in the gums, was become ſo hard, that for all the ſqueeſing of it nothing would come to the teeth; whence this Pigeon was very well: And Dr. *Francini* having cauſed the ſame bird to be bit again by the ſame dried head, it had after a little fluttering with his wings, whilſt the pain of the biting laſted, no other harm.

A live Viper then being taken, 4 Chickens were bit by it one after another. The two firſt, either becauſe the liquor did not penetrate into the wound, or the blood expelled it, appear'd not to have any diſtemper. The 4*th* look'd as if it would dye preſently; but a little after coming to himſelf he got clear

off

off for that time. But the third, who ſeem'd at firſt to be very lively, dyed within an hour and an half.

There being afterwards a young Bitch brought in of a pretty ſize, ſhe was bit twice by a live Viper in the middle of the hanging part of the ear Whereupon ſhe very ſoon began to give mortal ſigns, by ſtaggering, vomiting and being convulſed; after which having a little recover'd her ſelf, the ſame accidents return'd upon her, by which ſhe was reduced to ſuch a grievous condition, that four hours after her being bit ſhe could not ſtir any more, and ſeem'd juſt as if ſhe had been dead, holding out her tongue, and looking very gaſhly, without any other ſign of life than that of painful breathing; to which ſhe added ſometimes a faint barking and a languiſhing howling. In which condition ſhe was ſtill found next morning, only her reſpiration was yet weaker, and ſhe appearing juſt a drawing to her end. It was obſerv'd, that no part of her body was ſwell'd, nor had any ſpot upon it. She had voided backward ſome matter of a very black colour, of which her hind parts being very foul, a ſwarm of Gnats and Waſpes were devouring her alive: Which mov'd one of the ſervants of the houſe, to knock her in the head.

After this, there were bit two Capons and a Pullet by a freſh Viper, vexed a purpoſe; and, becauſe they gave not then any ſigns of being ill, they were ſent back to their coops, and there having continued well till evening, they were ſurpris'd at night by a diſtemper, which in all likelyhood proceeded from the poiſon; for next morning one of the Capons and the Pullet were found dead.

I muſt not forget to tell you, that the laſt thing that was done, was, the ſending to the Pigeon-houſe for that Pigeon, that had in his breaſt the ſtalk that had not been imbued by the yellow liquor; where he had been kept during all that interval of time, from the firſt experiments to theſe laſt; being now found by all not only very lively, but alſo in a thriving condition. The place of his wound being ſearch't, the ſtalk was eaſily felt, and was, before the eyes of all the company, with a little pair of Pinchers drawn out.

This is, *Sir*, what I can confidently affirm to have been an eye-witneſs of; and it being not my buſineſs to make reflections upon theſe experiments, I leave that to you. I know, I have not ſaid any thing but what will be moſt amply found in Sign. *Redi*'s firſt and 2*d*. book; but that, which urged me to make this repetition, was the thoughts that it might be acceptable to you, to ſee his Aſſertions confirmed by the Teſtimonies of ſo many perſons, that are the more able to be judges of them, becauſe their underſtandings are ſuch, that 'tis not poſſible to impoſe upon them.

If I may be ſo happy as to receive ſometimes from you an account of the Curious performances of your famous *Royal Society*,, I ſhall make uſe of that favour, to animate the *Virtuoſi* here to do ſomething that may not be unworthy of your knowledge: But before you afford me this honor, I muſt firſt beſeech you to lay your commands on me, by the execution of which you ſhall plainly ſee, with how much reality I am, *&c.* *Dr. John*